

REMARKS

By this amendment, Claims 1, 2, 10, 18, 19, 20, and 28 are amended. Dependent Claims 29–36 have been added. No claims have been canceled. Hence, Claims 1–36 are pending in the application.

Each issue raised in the Office Action mailed September 26, 2007, is addressed hereinafter.

I. ISSUES RELATING TO CLAIM AMENDMENTS

The amendments to the claims as indicated herein do not add any new matter to this application. Furthermore, amendments made to the claims as indicated herein have been made to exclusively improve readability and clarity of the claims and not for the purpose of overcoming alleged prior art.

Support for the amendments made to the claims can be found in the at least the following paragraphs of the Specification: Paragraph [0012] (“Under RFC 792, IPv4 ICMP error packets comprise a copy of the IP header of the original packet that generated an error, and at least eight (35) bytes of data from the payload of the original IP packet.”); and Paragraph [0030] (“[T]he first eight bytes of the TCP header contain two port number values and a TCP sequence number relating to the TCP connection between two network nodes.”).

II. ISSUES RELATING TO CITED PRIOR ART

A. CLAIMS 1–28 —TALPADE in view of FAN

Claims 1–28 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Pub No. 2004/0148520, by *Talpade*, et al. (“*Talpade*”), in view of U.S. Patent No.

6,219,706, issued to *Fan* et al (“*Fan*”). Based on the following arguments, the rejections are respectfully traversed.

Independent Claim 1 recites:

receiving an ICMP packet, wherein **a data field within the ICMP packet includes a portion of a header** associated with a connection in a connection-oriented transport protocol, and wherein **the portion of the header includes a packet sequence value associated with the connection;**

obtaining the packet sequence value from the header;

determining if the packet sequence value is valid; and

responding to the ICMP packet by updating a parameter value associated with the transport protocol connection only if the packet sequence value is determined to be valid.

(Emphases added.) Claim 1 presents a method for preventing an attack on a network by performing the steps recited therein. One embodiment of the method, as performed, prevents an invalid ICMP packet from triggering possibly unnecessary and harmful updating of transport protocol parameters. According to one embodiment, a **portion of a TCP header is embedded within a data field of an ICMP packet**. The portion of the TCP header, as embedded in the ICMP packet, includes a sequence value that is associated with the TCP connection. The validity of the sequence value is determined. The ICMP packet is **responded to only if the packet sequence value is valid**, wherein the response comprises the updating of a parameter value associated with the TCP connection. For example, a possible response to a valid ICMP packet is the adjustment of the MTU value for the particular TCP connection.

No combination of *Talpade* in view of *Fan* discloses each and every express element of Claim 1. *Talpade* merely describes sensors that monitor all traffic entering

the customer networks. (*Talpade*, Paragraphs [0017]). The sensors track packet type information relating to TCP, UDP, ICMP, and IP packets following into the customer network. (*Talpade*, Paragraphs [0020]).) The sensor filters analyze the packet headers of the TCP, UDP, ICMP, and IP packets for invalid field values. In contrast to Claim 1, *Talpade* **does not teach or disclose the examining of the contents the data fields of any ICMP packets that are tracked.** Accordingly, *Talpade* does not teach or suggest obtaining and examining a packet sequence value **from a header that is included within the data field of an ICMP packet**, as recited in Claim 1. In addition, *Talpade* also fails to teach another express element of Claim 1, namely “responding to the ICMP packet by updating a parameter value associated with the transport protocol connection only if the packet sequence value is determined to be valid.”

Fan fails to “fill the gaps” left by *Talpade* with regard to Claim 1. *Fan* describes a firewall that examines the packet sequence number of a TCP packet to determine whether it falls within a defined range of sequences. Nothing in *Fan* describes any **TCP headers that are included within a data field of any ICMP packet**, as recited in Claim 1. In addition, nothing in *Fan* describes any **conditional response to an ICMP packet.** Accordingly, *Fan* does not teach or suggest responding to the ICMP packet **by updating a parameter value associated with the transport protocol connection** only if the sequence number is valid, as recited in Claim 1.

Because the combination of *Talpade* and *Fan* does not teach one or more express elements of Claim 1, it is respectfully submitted that Claim 1 is patentable over *Talpade* in view of *Fan*.

Independent Claims 10, 18, 19, and 28 include features similar to Claim 1, except in the context of computer-readable media, in means-plus-function form, or as an

apparatus claim. It is therefore respectfully submitted that Claims 10, 18, 19, and 28 are patentable over *Talpade* in view of *Fan* for at least the reasons given above with respect to Claim 1.

Claims 29–36, 11–17, and 20–27 are dependent claims, each of which depends (directly or indirectly) on Claims 10, 18, 19, and 28. In addition, each of Claims 29–36, 11–17, and 20–27 introduces one or more additional features that independently render it patentable. Due to the fundamental differences already identified, to expedite the positive resolution of this case, a separate discussion of the features of Claims 29–36, 11–17, and 20–27 is not included at this time. The Applicant reserves the right to further point out the differences between the cited art and the novel features recited in the dependent claims.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

CONCLUSION

For the reason set forth above, all of the pending claims are in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone relating to any issue that would advance examination of the present application.

A petition for extension of time for one (1) month, and otherwise for the time necessary to make this reply timely filed, is hereby made under 37 C.F.R. 1.136. The extension of time fee is submitted concurrently herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby

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authorized to any applicable fees and to credit any overpayments to our Deposit Account
No. 50-1302.

Respectfully submitted,

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Dated: January 15, 2008

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